<110> GOTO, Hidetsugu
NAKANO, Shigeru

<120> Structural gene responsible for acetic acid resistance in acetic acid bacteria, acetic acid bacteria transformed with said gene, and acetic acid fermentation using said transformations

<130> 4439-4024

<140> tba
<141> 2004-09-10

<150> PCT/JP03/02946
<151> 2003-03-12

<160> 10

<170> PatentIn version 3.2

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tacaccatgt cgattttctc gaaatatgaa ggccttgcgt ccgccctgtc ggcggtaacg 240

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tgcaccttct tccgtcgtcg gcactgcatg gtgttttcca ccggttacca ggccaatctg 540

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gccagcatct atgatggcag ccgccttggc catgcgcagg tcatccgctt ccgtcacaac 660

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Phe Gly Thr Asn Asn Tyr Leu Gly Leu Ser Gln Ser Pro Ala Ala Ile
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Glu Ala Ala Val Glu Ala Ala Arg Ala Tyr Gly Val Gly Thr Thr Gly
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Ser Arg Ile Ala Asn Gly Thr Gln Gly Leu His Arg Gln Leu Glu Glu
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Arg Leu Cys Thr Phe Phe Arg Arg Arg His Cys Met Val Phe Ser Thr
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Asp Tyr Leu Leu Leu Asp Ala Asp Ser His Ala Ser Ile Tyr Asp Gly

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Asp Asp Leu His Lys Arg Leu Arg Arg Leu Asp Gly Thr Pro Gly Ala
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Gly Val Ala Glu Ser Asp Gly Val Glu Asp Asp Val Asp Phe Val Val
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Gly Thr Phe Ser Lys Ser Leu Gly Thr Val Gly Gly Tyr Cys Val Ser
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Asn His Ala Gly Leu Asp Leu Ile Arg Leu Cys Ser Arg Pro Tyr Met
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Asn Ala Arg Arg Leu His Asp Gly Leu Gln Ala Ala Gly Leu Arg Thr
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Gly Pro Gln Ala Ser Pro Val Val Ser Val Ile Leu Asp Asp Val Ala
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340 345 350

Asn Leu Ser Leu Pro Pro Ala Thr Pro Asp Gln His Pro Leu Leu Arg
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caacccttt gctgttgtta ttgaaaaacc tgtctcttca actgttggaa ttattgaagg 240

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tgcaaatggc acacaatccc tgcaccgaca gcttgaaaaa gatattgccg cgtttttgg 420

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Lys Pro Val Ser Ser Thr Val Gly Ile Ile Glu Gly Arg Glu Thr Leu

35 40 45

Leu Phe Gly Thr Asn Asn Tyr Leu Gly Leu Ser Gln Ser Lys Asn Ala
50 55 60

Ile Gln Ala Ala Gln Gln Ala Ala Ala Ala Cys Gly Val Gly Thr Thr
65 70 75 80

Gly Ser Arg Ile Ala Asn Gly Thr Gln Ser Leu His Arg Gln Leu Glu
85 90 95

Lys Asp Ile Ala Ala Phe Phe Gly Arg Arg Asp Ala Met Val Phe Ser
100 105 110

Thr Gly Tyr Gln Ala Asn Leu Gly Ile Ile Ser Thr Leu Ala Gly Lys
115 120 125

Asp Asp His Leu Phe Leu Asp Ala Asp Ser His Ala Ser Ile Tyr Asp
130 135 140

Gly Ser Arg Leu Ser Ala Ala Glu Val Ile Arg Phe Arg His Asn Asp
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Pro Asp Asn Leu Tyr Lys Arg Leu Lys Arg Met Asp Gly Thr Pro Gly
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Ala Lys Leu Ile Val Val Glu Gly Ile Tyr Ser Met Thr Gly Asn Val
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Ala Pro Ile Ala Glu Phe Val Ala Val Lys Lys Glu Thr Gly Ala Tyr
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Leu Leu Val Asp Glu Ala His Ser Phe Gly Val Leu Gly Gln Asn Gly
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Arg Gly Ala Ala Glu Ala Asp Gly Val Glu Ala Asp Val Asp Phe Val
225 230 235 240

Val Gly Thr Phe Ser Lys Ser Leu Gly Thr Val Gly Gly Tyr Cys Val
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Ser Asp His Pro Glu Leu Glu Phe Val Arg Leu Asn Cys Arg Pro Tyr
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Ala Asn Ala Gln Gln Leu His Ala Gly Phe Val Asp Ile Gly Leu Asn

305 310 315 320

Ala Ser Lys His Ala Thr Pro Val Ile Ala Val Thr Leu Glu Thr Ala
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Glu Glu Ala Ile Pro Met Trp Asn Arg Leu Leu Glu Leu Gly Val Tyr
340 345 350

Val Asn Leu Ser Leu Pro Pro Ala Thr Pro Asp Ser Arg Pro Leu Leu
355 360 365

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